STATE OF HAWAII
DEPARTMENT OF HEALTH

MOBILE INTENSIVE CARE TECHNICIAN

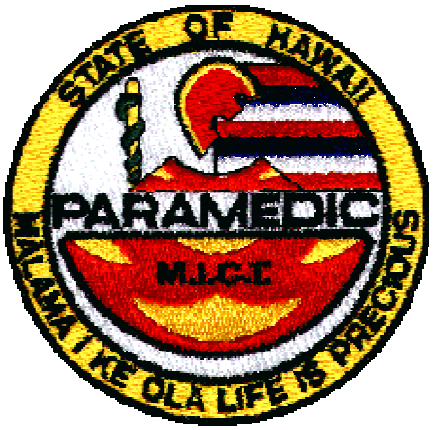
ADULT AND PEDIATRIC

STANDING ORDERS

AND

EXTENDED STANDING ORDERS

August 2006



EMS & INJURY PREVENTION SYSTEM BRANCH
STATE EMERGENCY MEDICAL SERVICES SYSTEM

STATE OF HAWAII
DEPARTMENT OF HEALTH
EMERGENCY MEDICAL SERVICES & INJURY PREVENTION SYSTEM

Standing Orders Policy For Mobile Intensive Care Technicians

Adult & Pediatric Patients

APPROVED:

Linda Rosen MD MPH

Linda Rosen, M.D., M.P.H.
Chief, EMS-IPS Branch

Date: August 1, 2006

Table of Content

Adult Standing Orders

Table of Content

Pediatric Standing Orders

Medication List

Acetaminophen (Tylenol) Elixir
Activated Charcoal
Adenosine (Adenocard)
Albuterol Inhaler
Albuterol Sulfate
Amiodarone (Cordarone)
Aspirin, Chewable
Atropine
Diphenhydramine (Benadryl)
Calcium Chloride
Dextrose 50%
Diazepam (Valium)
Dopamine
Epinephrine 1:1,000
Epinephrine 1:10,000
Furosemide (Lasix)
Glucagon
Ipratropium (Atrovent)
Lidocaine 1%
Lidocaine 20%
Morphine Sulfate
Magnesium Sulfate
Methylprednisolone
Midazolam (Versed)
Naloxone (Narcan)
Nitroglycerine
Norepinephrine (Levophed)
Pitocin (Oxytocin)
Promethazine (Phenergan)
Sodium Bicarbonate
Succinylcholine
Terbutaline (Brethine)

If available:
Atropine Auto-Injector
Sodium Thiosulfate
Valium Auto-Injector
2-PAM Chloride Auto-Injector

Revised 8/2006

MOBILE INTENSIVE CARE TECHNICIAN
ADULT AND PEDIATRIC STANDING ORDERS
AND EXTENDING STANDING ORDERS

GENERAL GUIDELINES

These Standing Orders shall allow Medical Intensive Care Technicians (MICTs) to perform time-sensitive procedures and treatments prior to communication with the Base Station Physician. The MICT should usually perform Standing Orders before communicating with the Base Station Physician. However, the MICT may communicate prior to following Standing Orders should he/she feel it is needed. In situations when the MICT is unable to communicate and the transport time is greater than ten (10) minutes, the Extended Standing Orders should be used to treat the patient until communication is established. Any use of standing orders shall be followed by communication with the Base Station receiving the patient. Whenever the Standing Orders are used for a patient, a history and physical examination must be done which shall include medications, history of allergies to medications, and past medical history. MICTs may, at their discretion, because of how ill a patient appears or because of mechanisms of injury, administer O2, apply continuous cardiac monitoring, and establish prophylactic IV access with Saline lock or IV solution at TKO rate even if the circumstances are not covered in the following specific standing orders.

Emergency Medical Technicians (EMTs) can initiate intravenous lines and perform manual external defibrillation under the direction and personal supervision of an MICT if the EMT has completed a State-approved IV/Defibrillation course of training.

TRANSFER STANDING ORDER (TSO)

A certified MICT may accept an order to transfer a patient from one medical facility to another if each of the following conditions are met:

1. The order comes from a Hawaii licensed physician, who is treating the patient.

2. The MICT is adequately informed of the patient's diagnosis, condition, medications, allergies, expected course during ambulance transfer, specific Living Will/Comfort Care Only – Do Not Resuscitate status, and any other specific information requested by the MICT for transfer.

3. The MICT may use Standing Orders during transfer, if necessary and appropriate, and shall communicate with the receiving hospital if he/she does so.

4. There is an accepting physician at the destination facility, and the destination facility agrees to be prepared to receive the patient.

CRITICAL TRAUMA STANDING ORDER (CTSO)

Penetrating injuries and blunt trauma are time-sensitive conditions which may require rapid hospital surgical intervention. EMS must expedite transport of these patients to hospitals and trauma centers.

The MICT shall:

1. Rapidly extricate and immobilize the patient. Initiate transport.

2. Secure and maintain a clear airway, administer O2 10-15 liters/min. If patient airway and effort is unstable, consider IMPENDING RESPIRATORY ARREST/AIRWAY PROBLEMS Standing Order I-E, without delay during transport.

3. Open early MEDICOM communications with the receiving hospital ED.

STANDING ORDERS – ADULT

I-A CARDIOPULMONARY ARREST

Initiate CPR and administer 100% O2 by assisted mask ventilation as soon as possible. Maintain CPR and assisted ventilation throughout incident until the return of normal spontaneous pulse and/or respiration, or until resuscitation effort is terminated.

Check cardiac monitor rhythm by attaching electrodes or by performing a "Quick Look" using defibrillation paddles.

If rhythm is ventricular fibrillation and arrest is NOT witnessed by EMS, perform CPR for 5 cycles (about 2 minutes) prior to first defibrillation. If witnessed by EMS or if effective CPR has already been performed for 2 minutes or longer prepare for immediate defibrillation.

FOLLOW APPROPRIATE STANDING ORDER

* In the event of a cardiopulmonary arrest where an IV or IO access cannot be obtained and the patient has a pre-existing vascular access device (PVAD), the MICT may utilize the PVAD if he/she has received EMS provider training on accessing the device.

Revised 8/2006

I-A1 PULSELESS VENTRICULAR TACHYCARDIA / FIBRILLATION

Defibrillate at 360 joules if monophasic defibrillator, if biphasic defibrillator use device-specific recommendation for energy level.

Resume CPR for 5 cycles. Concomitantly establish IV or IO Normal Saline at TKO rate, and secure airway with tracheal tube or Combitube.

Check pulse and cardiac monitor. Minimize interruption in CPR whenever checking pulse and monitor.

If still in VF/VT, give Epinephrine 1:10,000 1 mg IV or IO push. Repeat every 3-5 minutes as long as VF/VT persists.

Defibrillate at 360 joules if monophasic defibrillator, if biphasic defibrillator use device-specific recommendation for energy level for second shock.

Resume CPR for 5 cycles. Check pulse and cardiac monitor.

If still in VF/VT, give Amiodarone 300 mg IV or IO push followed by 10 cc Normal Saline flush.

Defibrillate at 360 joules if monophasic defibrillator, if biphasic defibrillator use device-specific recommendation for energy level for third and all subsequent shocks.

Resume CPR for 5 cycles. Check pulse and cardiac monitor.

If conversion occurs following Amiodarone and defibrillation, begin an Amiodarone drip with 150 mg mixed into 100 cc of Normal Saline and run over a 10-minute period (15 mg/min).

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDRERS

Revised 8/2006

I-A1.a CONTINUING PULSELESS VENTRICULAR TACHYCARDIA / VENTRICULAR FIBRILLATION

If still in VF/VT, give second Amiodarone 150 mg IV or IO push followed by 10 cc Normal Saline flush.

Defibrillate at 360 joules if monophasic defibrillator, if biphasic defibrillator use device-specific recommendation for energy level for shock.

Resume CPR for 5 cycles. Check pulse and cardiac monitor.

If still in VF/VT, give Lidocaine 1.5 mg/kg IV or IO

Defibrillate at 360 joules if monophasic defibrillator, if biphasic defibrillator use device-specific recommendation for energy level for shock.

Resume CPR for 5 cycles. Check pulse and cardiac monitor.

If conversion occurs following Amiodarone begin an Amiodarone drip with 150mg mixed into 100 cc of Normal Saline and run over a 10-minute period (15 mg/min). If conversion occurs following Lidocaine begin a Lidocaine drip by administering 1-2 mg/min.

If still no successful conversion and still in VF/VT, defibrillate at 360 joules if monophasic defibrillator, if biphasic defibrillator use device-specific recommendation for energy level for shock.

Resume CPR for 5 cycles. Check pulse and cardiac monitor.

In case of ventricular tachycardia consistent with torsade de pointes, give Magnesium Sulfate 2 g IV or IO.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Reviewed 8/2006

I-A2 ASYSTOLE

Continue CPR.

Establish IV or IO Normal Saline at TKO rate.

Epinephrine 1:10,000 1 mg IV or IO push. Repeat every 3-5 minutes until return of pulse or resuscitation is terminated.

Secure airway with tracheal tube or Combitube as early as possible in course of treatment.

Atropine 1 mg IV or IO push. Repeat every 3-5 minutes to a maximum of 3 mg.

Sodium Bicarbonate 1mEq/kg IV push.

COMMUNUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

If no return of cardiac rhythm on monitor after twenty (20) minutes of Advanced Cardiac Life Support, discontinue cardiopulmonary resuscitation. Notify Police and appropriate county agencies of unattended death.

Revised 8/2006

I-A3 PULSELESS ELECTRICAL ACTIVITY

Continue CPR.

Establish IV or IO Normal Saline with rapid infusion 300 cc (if no evidence of CHF).

Epinephrine 1:10,000 1 mg IV or IO push. Repeat every 3-5 minutes until return of pulse or resuscitation is terminated.

Secure airway with tracheal tube or Combitube as early as possible in course of treatment.

Atropine 1mg IV or IO push if bradycardia <60 bpm. Repeat every 3- 5 minutes to maximum of 3 mg.

Reassess tube placement and re-check for tension pneumothorax and other causes of Pulseless Electrical Activity.

Sodium Bicarbonate 1 mEq/kg IV push.

COMMUNUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

I-A4 RENAL DIALYSIS CARDIAC ARREST

Because a renal dialysis patient in cardiac arrest (of any type) can have profound hyperkalemia, administer these medications as soon as the IV is established. These medications are in addition to any other Standing Orders applicable.

1. Calcium Chloride 1 Gm IV or IO push.
2. Flush IV line thoroughly.*
3. Sodium Bicarbonate 50 mEq IV or IO push.

If no change, flush IV line thoroughly and repeat steps 1, 2 and 3 once.

CONTINUE STANDING ORDERS

*** Note:** Calcium Chloride can precipitate in the presence of Sodium Bicarbonate

Reviewed 8/2006

I-A5 DROWNING CARDIOPULMONARY ARREST

In addition to CARDIOPULMONARY ARREST Standing Order I-A:

Administer Sodium Bicarbonate 1 mEq/kg IV push.

CONTINUE STANDING ORDERS

Caution: Be aware of possible Hypothermia. Cover the patient with blankets and turn off the air conditioner in the ambulance patient compartment.

Revised 8/2006

I-B1 STABLE REGULAR WIDE COMPLEX TACHYCARDIA

The definition of tachycardia for Standing Orders is a rate greater than 150 beats per minute and not due to non-cardiac causes such as fever, trauma, hypovolemia, drug effects, etc.

Administer O_2 at 10-15 liters by mask.

Establish IV with Normal Saline at TKO rate.

Obtain 12-lead ECG.

Administer Amiodarone 150 mg diluted in 100 ml Normal Saline and infused over 10 minutes.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

I-B2 STABLE REGULAR NARROW COMPLEX TACHYCARDIA

The definition of tachycardia for Standing Orders is a rate greater than 150 beats per minute and not due to non-cardiac causes such as fever, trauma, hypovolemia, drug effects, etc.

Administer O2 at 10-15 liters by mask.

Establish IV with Normal Saline at TKO rate.

Obtain 12-lead ECG.

Attempt conversion of tachycardia with vagal maneuvers.

If no conversion, give Adenosine 6 mg rapid IV push.

In case of conversion, repeat 12-lead ECG.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

I-B3 UNSTABLE TACHYCARDIA WITH PULSE

The definition of tachycardia for Standing Orders is a rate greater than 150 beats per minute and not due to non-cardiac causes such as fever, trauma, hypovolemia, drug effects, etc.

Signs of instability include altered mental status, ongoing chest pain, hypotension or other signs of shock.

Administer O2 at 10-15 liters by mask.

Establish IV with Normal Saline at TKO rate.

Quickly obtain 12-lead ECG.

If patient is conscious, give Midazolam (Versed) 2 mg IV. May repeat to achieve patient comfort or up to a maximum dose of 10 mg.

Cardiovert at 100 joules monophasic energy dose (or equivalent biphasic energy dose). In case of paroxysmal supraventricular tachycardia or atrial flutter, start at 50 joules.

If no successful conversion, repeat cardioversion at next higher energy level. Shock sequence is: 50 joules if paroxysmal supraventricular tachycardia or atrial flutter, otherwise 100 joules, 200 joules, 300 joules, 360 joules.

In case of conversion, repeat 12-lead ECG.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Addendum 8/2006

I-C CHEST PAIN

With signs or symptoms indicative of myocardial ischemia:

Administer O_2 at 2-4 liters/minute by nasal cannula or 10-15 liters by non-rebreather mask.

Obtain 12-lead ECG. If ST elevations are present, notify receiving hospital as soon as possible.

If BP > 100 systolic and no contraindication (no use of Viagra [sildenafil] or Levitra [vardenafil] in previous 48 hours, or of Cialis [tadalafil] in previous 72 hours, or recent use of any other similar medication, and no evidence of right ventricular infarction such as inferior MI with hypotension), administer Nitroglycerine 0.4 mg (1/150 grain) oral spray or tablet. (If BP is less than 100 systolic do not give Nitroglycerine unless MEDICOM physician orders it.) May repeat every 5 minutes if BP is > 100 systolic.

Administer Aspirin 160 mg orally if the patient has no history of allergic reaction to Aspirin. If the patient has a recent history of gastrointestinal bleeding, contact the Base Station Physician before administrating the Aspirin.

Establish IV with Normal Saline at TKO rate.

If systolic BP > 100 and chest pain is unrelieved by nitroglycerine, communicate for possible Morphine Sulfate order.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

I-D BRADYCARDIA

Sinus Bradycardia, Junctional Rhythm, Idioventricular Rhythm, Atrial Fibrillation with Slow Ventricular Response, Mobitz I, Mobitz II, Complete Heart Block, all with ventricular rate less than 60 beats per minute, with the patient having systolic/palp BP <90 and one or more of these symptoms/signs: chest pain, shortness of breath, skin cool, pale or diaphoretic.

Administer O_2 at 10-15 liters by non-rebreather mask.

Apply pacemaker pads. (If the patient is unstable or IV access cannot be achieved or is delayed, then turn on external pacemaker and assure capture.)

Establish IV Normal Saline.

If systolic BP is <90 and the patient is still symptomatic:

- Give 300 cc bolus Normal Saline IV (if not in CHF).
- Give Atropine 0.5 mg IV (may repeat Atropine 0.5 mg every 3-5 minutes to total dose of 3 mg).

If systolic BP is still <90 and the patient is still symptomatic after the second dose of Atropine, begin Dopamine drip 5-20 mcg/kg per minute via automatic IV infusion pump titrated to BP 100.

NOTE: Communicate with the Base Station Physician as soon as possible for sedation if the patient is uncomfortable with the pacing.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

I-E IMPENDING RESPIRATORY ARREST/AIRWAY PROBLEMS

Where pulse exists:

Provide rescue breathing, assisted mask ventilations with 100% O2 until ready to perform tracheal intubation.

Perform tracheal or nasotracheal intubation. If unable, consider Combitube intubation or continue assisted mask ventilation with 100% O2 (consider PARALYTIC-ASSISTED TRACHEAL INTUBATION Standing Order I-O).

Establish IV with Normal Saline at TKO rate.

Cricothyrotomy should be performed for:

1. Inability to ventilate a patient with tracheal obstruction after appropriate number of Heimlich maneuvers and unsuccessful assisted ventilation; or

2. Massive facial trauma.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Reviewed 8/2006

I-F HYPOVOLEMIC SHOCK

For systolic BP < 90mm Hg which is considered to be secondary to hypovolemia:

Administer O_2 at 10-15 liters/minute by mask. If apneic, or if respiratory arrest is impending, perform tracheal intubation and ventilate with 100% oxygen.

Establish IV with Normal Saline and infuse at a rapid rate.

Do not delay transport. Establish second or more IVs with Normal Saline enroute and continue to infuse IVs at a rapid rate until the BP is >90 systolic or until the patient's neck veins start to distend while in the supine position.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Caution: Be aware of possible Hypothermia in patients with large blood loss, large open wounds, or elderly patients. Cover patient with blankets and turn off the air conditioner in the ambulance patient compartment.

Reviewed 8/2006

I-G ANAPHYLACTIC SHOCK/GENERALIZED ALLERGIC RESPONSE

Allergic Reaction without Shock:

Administer O2 at 10-15 liters by mask.

For severe reaction, administer Epinephrine 1:1,000 0.3 mg SC or IM.

Establish IV Normal Saline with 300 cc rapid infusion.

Administer Diphenhydramine (Benadryl) 50 mg IV. If no IV available give IM.

In case of severe, generalized reaction give Methylprednisolone 125 mg IV.

In case of wheezing or respiratory distress give aerosolized Albuterol 5mg.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Allergic Reaction with Shock:

Administer O2 at 10-15 liters by mask.

Give Epinephrine 1:1,000 IM

Establish IV or IO with Normal Saline 300 cc rapid infusion.

If still in shock Give Epinephrine 1:10,000 IV or IO at 0.1 mg increments titrated up to 0.5 mg.

Give Diphenhydramine 50 mg IV or IO.

Give Methylprednisolone 125 mg IV or IO.

In case of wheezing or respiratory distress give aerosolized Albuterol 5mg.

If no IV or IO access available:

1. Repeat Epinephrine 1:1,000 0.3 mg IM every 5 minutes as needed.
2. Administer Diphenhydramine 50 mg IM.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

I-H ACUTE PULMONARY EDEMA

For case with rales present in both lungs, with absence of fever.

Administer 100% oxygen by assisted mask ventilation.

If BP greater than 100 systolic and no contraindications (for contraindications see CHEST PAIN Standing Order I-C). Administer Nitroglycerine 0.4 mg (1/150 grain) aerosol spray or tablet if BP > 100 systolic. May repeat every 5 minutes up to a total of 5 doses if BP remains greater than or equal to 100 systolic.

Establish IV @ TKO rate.

Administer Furosemide (Lasix) 1mg/kg up to a maximum of 100 mg IV push if BP > 100 systolic.

If BP < 100 systolic, give Dopamine 2.5 - 20 micrograms/kg per minute via automatic IV infusion pump, adjusted to maintain BP of 100 - 110.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

I-I BRONCHOSPASM

High flow oxygen 10-15 liters by mask or assisted bag-valve mask ventilation.

Inhalation updraft treatment with Albuterol 5 mg. If insufficient response, give 2nd inhalation updraft treatment with Albuterol 5 mg. and add Atrovent 0.5 mg to the updraft.

If no adequate response after second aerosol, establish IV. Give Methylprednisolone 125 mg IV.

If still needed, give 3rd inhalation updraft treatment with Albuterol 5 mg.

Consider tracheal intubation if impending respiratory arrest.

If patient is wheezing but has a history of CHF, or if pulmonary edema is suspected, an Albuterol Aerosol may be tried. If no favorable response, do not repeat Albuterol in this case.

If patient with severe bronchospasm requires intubation and mechanical ventilation, and is very hard to ventilate because of severe bronchospasm, give 10 cc of 1:10,000 Epinephrine down the endotracheal tube to reduce the bronchospasm.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

I-J ALTERED MENTAL STATUS

Check respiratory status and oxygen saturation.

Check blood glucose.

Draw blood sample for blood glucose test.

Start IV Normal Saline TKO:

1. Administer Naloxone (Narcan) at 0.4 mg increments up to 2 mg total.
2. If blood glucose < 80 mg% give 25 Gm 50% Dextrose IV.

IF CANNOT OBTAIN IV ACCESS:

1. Give Naloxone (Narcan) 2 mg IM.
2. If blood glucose < 80 mg% give Glucagon 1mg IM.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

I-K PREGNANCY WITH ACTIVE LABOR/IMPENDING NEWBORN DELIVERY

Administer O_2 10-15 liters/min via mask to mother, and start IV Normal Saline TKO.

Prepare for delivery of newborn

Check for prolapsed cord. If present, instruct mother not to push, position mother in knee-chest position. Use gloved fingers to lift presenting part and relieve compression of cord.

For any complications (prolapsed cord, breech, shoulder dystocia, etc.) **COMMUNICATE STAT** with MEDICOM Base Station Physician (Oahu MICTs: Contact Kapiolani) stressing presence of complicating factor.

If labor progresses to delivery, assist mother to control delivery of the head. Feel for cord wrapped around neck and, if present, lift it gently over the head. If cord is too tight to lift over head, double clamp cord and cut it between the clamps.

After delivery:

Mother:

(a) Apply firm rubbing pressure to low mid-abdomen.
(b) If excessive hemorrhage or shock, follow HYPOVOLEMIC SHOCK Standing Order I-F.

Baby:

(a) Follow NEWBORN RESUSCITATION Standing Order I-J.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

I-L PREGNANCY WITH ACTIVE LABOR/IMPENDING NEWBORN DELIVERY

If excessive post partum hemorrhage persists despite uterine massage, add 10units/1 cc of Pitocin to 1 liter Normal Saline and run wide open until bleeding is controlled.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Addendum 8/2006

I-M TENSION PNEUMOTHORAX

Administer O2 10-15 liters/min via mask or assisted BVM ventilation.

In the event that a patient is hypotensive (BP <90 systolic) and has decreased breath sounds on one side, needle thoracostomy should be performed on that side if any of the following are present:

1. Tracheal deviation,
2. Subcutaneous emphysema, or
3. Signs of shock.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Reviewed 8/2006

I-N STATUS EPILEPTICUS
(Continuous Seizures)

Administer O2 10-15 liters/min by mask or assisted BVM ventilation.

Establish IV Normal Saline at TKO rate.

Do blood glucose test and if blood glucose is less than 80 mg% follow ALTERED MENTAL STATUS Standing Order I-J.

If seizure has lasted more than 5 minutes, administer Diazepam (Valium) 5 mg slow IV push. If seizure activity does not stop in 2 minutes, may repeat once.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

* If seizure continues more than 5 minutes after the 2nd Diazepam IV dose, administer additional Diazepam IV slow push, until seizure is controlled or until a total cumulative dose of 20 mg has been given to the patient. Be prepared to support airway with intubation.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

I-O PARALYTIC-ASSISTED TRACHEAL INTUBATION

PREPARATION:

1. Hyperventilation/preoxygenate as appropriate.
2. Assure suction is available and setup.
3. Establish a large bore IV and secure.
4. Place cardiac monitor and pulse oximeter on patient.
5. Ready intubation equipment and supplies.
6. Setup alternate airway adjuncts:
   a. Combitube
   b. Bag-Valve-Mask (if maxilla and mandible stable)
   c. Cricothyrotomy device
7. Restrain as appropriate.

MEDICATION PROTOCOL:

- 3:00 min Preoxygenate.
- 2:00 min Lidocaine (1.5 mg/kg) if head injury or CVA.
- 1:30 min If awake administer Versed 0.06 mg/kg and may repeat same dosage in increments as needed to a maximum total dose of 0.2 mg/kg.

Versed "Quick-Look" Incremental Dose (0.06 mg/kg)

40-50 kg:	3 mg
60-70 kg:	4 mg
80-90 kg:	5 mg
100-110 kg:	6 mg

- 1:00 min Apply cricoid pressure.
- 0:45 min Succinylcholine IV (1.5 mg/kg) ***NOTE*:** If unable to establish IV, give double the IV dose intramuscularly.
- 0:00 min Intubate and assess ET tube placement.
- +0:30 min Secure ET tube position and reassess tube placement.
- +1:00 min Administer Atropine 0.02 mg/kg if Bradycardic and BP <100 systolic.
- +1:30 min Administer Versed as above if not already given and may titrate remaining doses to total of 0.2 mg/kg for continued patient sedation.

Continued: PARALYTIC-ASSISTED TRACHEAL INTUBATION

If relaxation is inadequate after 1-2 minutes recheck IV quality, then repeat same dose of Succinylcholine and re-attempt ET intubation.

If unable to intubate the paralyzed patient, insert Combitube.

If still unable to secure the patient's airway, make additional attempt at ventilation with bag-valve mask with maximal attention to technique.

If still unable to secure the patient's airway, perform cricothyrotomy.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

IMPORTANT:
The proper sequential administration of the PATI medications is critical to the success of this procedure and the care of the patient. If Succinylcholine is needed to enable tracheal intubation, then sedation with Midazolam (Versed) should also be provided.

Revised 8/2006

I-P SEVERE VOMITING

Only applies to cases with severe vomiting and a transport time expected to be greater than 20 minutes.

Administer O2 at 2-4 liters/minute by nasal cannula.

Cardiac Monitor.

Establish IV Normal Saline at TKO rate.

Administer Promethazine (Phenergan) 12.5 mg IV slow push.

If vomiting is not controlled, may repeat Promethazine (Phenergan) 12.5 mg IV slow push, once.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Note: Treatment contraindicated in patients < 2 years of age, altered mental status, pregnancy and hypersensitivity or allergy to Promethazine (Phenergan).

Revised 8/2006

I-Q CYANIDE EXPOSURE

For MICTs/EMTs or public safety responders determined to have a high likelihood of significant cyanide exposure.

Administer O2 at 10-15 liters by non-rebreather mask or assisted BVM ventilation.

Cardiac Monitor.

Establish IV Normal Saline at TKO rate.

If available: Administer Sodium Thiosulfate 12.5 grams (50 ml) IV.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Note: Nitrate therapy (such as amyl nitrite or sodium nitrite found in the CN Treatment Kits) is not helpful. Do not use them.

Reviewed 8/2006

I-R1 NERVE AGENT EXPOSURE

In the event of a known or suspected exposure to nerve agents (signs of pinpoint pupils, runny nose, shortness of breath) in EMS personnel or other public safety responders

If available: Immediately administer Auto-Injector Atropine 2 mg.

If available: Administer Auto-Injector 2-PAM Chloride 600 mg.

If signs of exposure persist or reoccur: Repeat above Auto-Injection treatment up to 3 doses of each.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

I-R2 NERVE AGENT EXPOSURE WITH SEIZURES

In the above nerve agent patient with focal or generalized seizure or muscle fasciculation:

If available: Immediately administer Auto-Injector Valium 10 mg.

May repeat Valium 10 mg x 2 for a total of 30 mg for continued seizures.

Support airway and ventilation as needed.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Addendum 8/2006

I-S ISOLATED EXTREMITY FRACTURE

For painful extremity injury with high probability of fracture or dislocation in person who is otherwise not significantly ill or injured.

Administer O2 at 2-4 liters/minute by nasal cannula or 10-15 liters/minute by non-rebreather mask.

Establish IV with Normal Saline at TKO rate.

If systolic BP>100, give Morphine Sulfate 2 mg IV.

May repeat Morphine Sulfate 2 mg IV every 3 to 5 minutes until pain is relieved, systolic pressure is no longer more than 100, or a total of 10 mg has been given.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Addendum 8/2006

SECTION II

*PEDIATRIC STANDING ORDERS

INTRODUCTION

Respiratory failure is the most common cause of cardiac arrest in pediatric patients. Oxygen should be administered by high concentration partial rebreather oxygen mask at high flow rates to any serious patient. The adequacy of oxygenation and ventilation must be constantly re-evaluated. Bag-mask ventilation is preferred for children who require ventilatory support, especially if the transport time is short. The Broselow tape should be used to pick the correct tracheal tube size and for estimating the patient's weight. Vascular administration (IV or IO) of resuscitation medications is preferable to administration by the tracheal route. If vascular access cannot be established, initial resuscitation medications can be administered via the endotracheal tube. Medication given by endotracheal tube should be flushed with a minimum of 3-5 ml Normal Saline followed by 5 assisted manual ventilations. If CPR is in progress, stop chest compressions briefly during administration of endotracheal medications. Resuscitation drugs administered via peripheral IV or IO should be followed by a bolus of 5 ml Normal Saline. Do not delay transport attempting to initiate an IV or IO. If a line is established, it is desirable to administer medication directly into the circulation even if they have already been given via the endotracheal tube. Pediatric Standing Orders allow intraosseous line placement for pulseless ventricular fibrillation, ventricular tachycardia, asystole, and pulseless electrical activity. For all other conditions, an attempt to communicate with the Base Station Physician should be made first.

Critical pediatric patients may have unsuspected hypoglycemia. Check blood glucose early in resuscitation.

**** As defined in the Base Station Manual as a patient less than 13 years old. If patient appears older than 8 years of age and is the size of a small adult, then consider using adult standing orders for situations not covered in pediatric standing orders.***

Revised 8/2006

II-A CARDIOPULMONARY ARREST
(Absence of Pulse or Blood Pressure)

Initiate CPR and administer 100% O2 by assisted mask ventilations as soon as possible. Maintain CPR and assisted ventilation throughout incident until the return of normal spontaneous pulse and/or respiration.

Check cardiac monitor rhythm by attaching electrodes or by performing a "Quick Look" using defibrillation paddles.

If the rhythm is Ventricular Fibrillation or Pulseless Ventricular Tachycardia and arrest is NOT witnessed by EMS, perform CPR for 2 minutes prior to the first defibrillation attempt. If the arrest is witnessed by EMS, prepare for immediate defibrillation.

FOLLOW APPROPRIATE STANDING ORDERS

Revised 8/2006

II-A1 PULSELESS VENTRICULAR TACHYCARDIA / FIBRILLATION

Defibrillate 2 joules/kg. (Note: Perform CPR while the defibrillator is charging.)

Resume CPR for 2 minutes (10 cycles). Concomitantly establish IV or IO and secure airway.

Check pulse and cardiac monitor. Minimize interruption in CPR whenever checking pulse and monitor.

If still in VF/pulseless VT, give Epinephrine 1:10,000 0.01 mg/kg IV or IO followed by 5 ml Normal Saline flush (or 1:1,000 0.1 mg/kg via endotracheal tube). Repeat every 3-5 minutes as long as VF/VT persists.

Defibrillate 4 joules/kg.

Resume CPR for 2 minutes (10 cycles). Check pulse and cardiac monitor.

If still in VF/VT, give Amiodarone 5 mg/kg IV/IO followed by 5 ml Normal Saline flush. (Lidocaine 1 mg/kg IV/IO if Amiodarone unavailable.)

Defibrillate 4 joules/kg.

Resume CPR for 2 minutes (10 cycles). Check pulse and cardiac monitor.

In case of ventricular tachycardia consistent with torsades de pointes, give Magnesium 25 mg/kg IV/IO, maximum of 2 g.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

II-A2 ASYSTOLE

Continue CPR.

Consider Endotracheal Intubation.

Establish IV or IO (perform IO access in one leg only).

Epinephrine 1:10,000 0.01 mg/kg IV or IO (or 0.1 mg/kg 1:1,000 via endotracheal tube). Repeat every 3-5 minutes.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

II-A3 PULSELESS ELECTRICAL ACTIVITY

Continue CPR.

Consider Endotracheal Intubation.

Establish IV or IO. (Perform intraosseous access in one leg only.)

Epinephrine 1:10,000 0.01 mg/kg IV or IO (or 0.1 mg/kg 1:1,000 via endotracheal tube). Repeat every 3–5 minutes.

Administer Normal Saline bolus 20 cc/kg IV/IO.

Assess for possible causes for PEA.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Reviewed 8/2006

II-A4 DROWNING CARDIOPULMONARY ARREST

Follow CARDIOPULMONARY ARREST Standing Order II-A.

CONTINUE STANDING ORDERS

Caution: Be aware of possible Hypothermia. Cover the patient with blankets and turn off the air conditioner in the ambulance patient compartment.

Revised 8/2006

II-B TACHYCARDIA

(Pediatric tachycardia with pulses and poor perfusion/adequate perfusion)

Administer oxygen.

Obtain 12-lead EKG.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Reviewed 8/2006

II-C BRADYCARDIA

< 60 beats/minute (< 80 beats/minutes if less than one (1) year of age) with poor perfusion

Assist ventilation as virtually all bradycardia in children is secondary to anoxia. If no response to 100% O2 mask ventilations:

Endotracheal Intubation.

If poor perfusion, initiate CPR.

Establish IV/IO (perform intraosseous access in one leg only).

Epinephrine 1:10,000 0.01 mg/kg IV/IO (or 0.1 mg/kg 1:1,000 via endotracheal tube). Repeat every 3-5 minutes.

Normal Saline bolus 20 ml/kg.

If increased vagal tone is possible or primary AV block is present, administer Atropine 0.02 mg/kg. May repeat. (Minimum dose 0.1 mg; maximum total dose: 1 mg.)

If not monitoring patient through pacemaker pads, apply pads only. Do not turn on external pacer until ordered by MEDICOM Physician.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Reviewed 8/2006

II-D IMPENDING RESPIRATORY FAILURE WITH A PULSE

Where Pulse Exists:

Provide rescue breathing, mask ventilation with 100% O2.

Consider Endotracheal Intubation. If unable to intubate, continue assisted mask ventilation with 100% O2.

Establish IV with Normal Saline at TKO rate.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Reviewed 8/2006

II-E HYPOVOLEMIC SHOCK

If the patient exhibits signs of shock considered to be secondary to hypovolemia:

Administer 100% oxygen via mask or endotracheal tube.

Establish IV with Normal Saline. If unable to start IV, start IO. Infuse Normal Saline 20 cc/kg as an initial fluid bolus.

Do not delay transport, while enroute:

1. Infuse 2nd Normal Saline 20 cc/kg fluid bolus.
2. Establish 2nd IV.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Caution: Be aware of possible hypothermia in patients with large blood loss or large open wounds. Cover patient with blankets and turn-off the air conditioner in the ambulance patient compartment.

Reviewed 8/2006

II-F SEVERE ALLERGIC REACTION/ANAPHYLACTIC SHOCK

Respiratory Distress Without Shock:

Administer O2 by mask.

Give Epinephrine 1:1,000 0.01 mg/kg IM or Sub-Q (maximum dose 0.3mg).

Establish IV with Normal Saline, TKO rate.

Give Diphenhydramine (Benadryl) 1 mg/kg up to 25 mg IV slowly. If no IV available give IM.

If signs and symptoms continue, repeat Epinephrine 1:1,000 0.01 mg/kg IM (maximum dose 0.3 mg).

Give Methylprednisolone 2 mg/kg IV/IO.

Repeat Diphenhydramine.

If patient is wheezing, refer to BRONCHOSPASM Standing Order II-G. Give aerosolized Albuterol 2.5 mg.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Anaphylactic Shock:

Administer O2 by mask.

Give Epinephrine 1:1,000 0.01 mg/kg IM (maximum dose 0.3 mg) .

Start IV with Normal Saline followed with a fluid bolus of 20 cc/kg.

If patient is in extremis and unable to start IV, start IO, give Epinephrine 1:10,000 0.01 mg/kg IV/IO over 1-2 minutes.

Give Diphenhydramine (Benadryl) 1 mg/kg up to 25 mg IV/IO slowly.

Give Methylprednisolone 2 mg/kg IV/IO.

If patient is wheezing, give aerosolized Albuterol 2.5 mg.

If signs and symptoms continue:

1. Repeat 2nd Epinephrine 1:1,000 0.01 mg/kg IM (maximum dose 0.3 mg) or communicate for Epinephrine IV.
2. Repeat Normal Saline IV bolus 20 cc/kg.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Reviewed 8/2006

II-G BRONCHOSPASM

(Respiratory distress with wheezing not involving foreign body)

Administer O2 at 10-15 liters by high concentration mask.

If in severe respiratory distress, administer 0.01 mg/kg Epinephrine 1:1,000IM or Sub-Q (up to 0.3 mg maximum).

1st inhalation updraft treatment with Albuterol 2.5 mg via nebulizer. If initially in severe bronchospasm or impending respiratory arrest, increase updraft treatment to Albuterol 5mg plus Atrovent 0.5 mg via nebulizer.

2nd inhalation updraft treatment with Albuterol 2.5 mg plus Atrovent 0.5 mg (if Atrovent not already given) via nebulizer.

If patient with severe bronchospasm requires intubation and is very hard to ventilate because of severe bronchospasm, administer Epinephrine 1:10,000 0.01 mg/kg down the endotracheal tube to reduce the bronchospasm.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Reviewed 8/2006

II-H DRUG OVERDOSE

Assess airway.

Apply Cardiac monitor.

Start IV Normal Saline at TKO rate.

In patients with no gag reflex, transport in left lateral decubitus position and be prepared to suction or intubate the airway if necessary. Use IMPENDING RESPIRATORY FAILURE WITH PULSE Standing Order II-D.

Bring in bottles / containers.

CONTACT THE MEDICOM PHYSICIAN BEFORE GIVING ANY IPECAC OR ACTIVATED CHARCOAL

Reviewed 8/2006

II-I HYPOGLYCEMIA / INSULIN REACTION

Check Dexstix

Draw blood sample for blood glucose test.

Start IV with Normal Saline at TKO.

If Glucose reading < 80 mg% (or < 40 mg% in newborn), administer Glucose 0.5 grams/kg (or 1 ml/kg of 50% Dextrose Solution) IV. For infants and children <30 kg, mix with equal volume of Normal Saline.

For newborns, dilute 50% Dextrose solution 1 part to 4 parts Normal Saline (10% Dextrose solution) and give 0.2 g/kg (2 ml/kg).

IF CANNOT OBTAIN IV ACCESS and if Dexstix < 80 mg% (or < 40 mg% in newborn), give Glucagon 1mg IM (0.5 mg IM if less than one year of age).

Recheck blood glucose.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Reviewed 8/2006

II-J NEWBORN RESUSCITATION

(If heart rate is less than 100/min, with poor respirations and noted to be cyanotic and limp)

Warm, position, suction, dry, stimulate and evaluate respirations, heart rate and color.

Mask positive pressure 20 breaths in 30 seconds with 100% O2.

If heart rate < 80, continue assisting ventilation with bag-mask or intubate with 3.5 ET tube for full term (premature: 3.0 ET for 2-3 kg and 2.5 ET for <2 kg), and ventilate 40-60 breaths/minute.

If heart rate is still < 80, begin cardiac compressions at rate of 120/minute, and give:

Epinephrine 1:10,000 0.01 to 0.03 mg/kg IV or ET (diluted with 1.0 cc Normal Saline). Repeat every 3-5 minutes.

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006

II-K STATUS EPILEPTICUS
(Continuous Seizures)

Administer O2 by mask or assisted BVM ventilation.

Do blood glucose test and follow HYPOGLYCEMIA / INSULIN REACTION Standing Order II-I.

Establish IV with Normal Saline at TKO rate.

If seizure has lasted more than 5 minutes since it began and is generalized, administer *Diazepam (Valium) 0.1 mg/kg slow IV push up to 2 mg per dose.

If IV not quickly established, administer Diazepam (Valium) 0.5 mg/kg rectally up to 10 mg maximum.

Monitor respiratory status and support as needed (avoid overzealous intubation if adequate oxygenation is present).

COMMUNICATE WITH MEDICOM PHYSICIAN FOR FURTHER ORDERS

Revised 8/2006